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ABSTRACT

Outdoor adventure education is an experiential method of learning which takes place primarily through sensory involvement with the outdoors. Characteristics of adventure education include uncertain outcomes, risk, inescapable consequences, energetic action, and willingness to participate. Adventure education occurs in a diversity of venues, ranging from wilderness explorations to artificial climbing walls and ropes courses. Outdoor adventure education programs have the potential to improve the moral development of participants. Outward Bound, the National Outdoor Leadership School, Project Adventure, and the Wilderness Education Association have set examples for outdoor adventure education companies through their leadership, programming, and curricula. Standards developed by them have been influential throughout the field. Outdoor leaders need soft skills, which involve facilitation, instructional, and organizational skills, and hard skills, which include technical, safety, and environmental skills. Meta-skills that hold the hard and soft skills together are also needed and include effective communication, flexible leadership style, professional ethics, problem solving, decision making, and experience-based judgement. Recommended best practices include implementing ethics of care for participants and the environment, ensuring the safety of participants and staff, having trained and certified leaders, matching goals and objectives to organizational needs, providing skill development and awareness for participants, having a written curriculum, and conducting ongoing evaluation and research. Research needs are discussed. (Contains 69 references.) (TD)

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Outdoor and Risk Educational Practices

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Abstract – This paper examines the definition of outdoor adventure education, which is education occurring in the outdoors. It focuses on the curriculum, programs, and leadership issues as they effect change in knowledge, attitude, behavior, and skills. Parameters in the field are defined, such as the ethics of care, program design, and goals and objectives of a program. Additionally, evaluation areas, gaps in research and future research are addressed. Outdoor adventure education is a growing field that will continue to grow and develop in the future. Suggestions for practices in the field are identified specifically as they relate to what has worked in the past and what the future may hold. More people are participating in outdoor education each year and these numbers will continue to grow over time making quality outdoor adventure education increasingly important.

Definition, Venues, and Participants

Experiential Education

Experiential education is learning by doing or by participating in an experience. Through direct experiences with nature, people, objects, things, places, and by actually learning by doing, scientific evidence has shown that the learning process is faster, what is learned is retained longer, and there is greater appreciation and understanding for those things that are learned first hand (Freeberg and Taylor 1963). The intent of experiential education is to create a just and compassionate world by transforming education and promoting positive social change (Association of Experiential Education Handbook 1995). Social change occurs when people learn and gain understanding, awareness, and appreciation of others.

Experiential education involves any combination of senses (i.e., touch, smell, hearing, sight, taste), emotions (i.e., pleasure, excitement, anxiety, fear, hurt, empathy, attachment), physical condition (e.g., temperature, strength, energy level), and cognition (e.g., constructing knowledge, establishing beliefs, solving problems) (Carver 1996). Experiential education can occur in both controlled environments, such as an outdoor backpacking trip or a ropes course, as well as the uncontrolled situations, such as learning how to do things on one's own. When learning occurs for an individual from an experience, insights are gained into themselves and their environment.

Outdoor / Adventure Education

Outdoor education is a form of experiential education that is important in society today. A large portion of society participates in some form of outdoor education, such as fishing, hiking, camping, or boating. According to Ford (1981), outdoor education is education in, about, and for the outdoors, implying a place, a topic, and a reason. The three components are the location outdoor education will occur, a subject matter to discuss, and a purpose behind the discussion. Another working definition states that outdoor education is "an experiential method of learning which takes place primarily through sensory involvement with the out-of-doors" (Priest and Gass, 1997, p. 17).

Horwood (1999) suggests there are five characteristics of adventure that serve as criteria to determine if an activity is adventurous. These characteristics include uncertain outcomes, risk, inescapable consequences, energetic action, and willingness to participate. Adventure education has become the widely accepted name for activities that employ risk and challenge, in a variety of settings, to attain a variety of educational goals (Hirsh 1999). Risk recreation education, adventure education, and outdoor education throughout this paper will be used interchangeably and will refer to education that is done in the outdoors and involves adventure.

Hammerman (1994) examined seven basic needs served by outdoor education. These included:

- Effective learning, realism in education.
- Environmental literacy.
- Re-creative experiences.
- Basic skills.
- Awareness.
- Environmental respect.

People learn effectively through active learning and in experiential education they are often empowered to form their own groups and given responsibility for

the management of that group (Lindsay and Ewert 1999). This empowerment to work in groups and learn at the groups or individuals own pace facilitates learning by students.

Many students have a need for education to have realism. By undertaking activities, the individual can comprehend the importance of each component and therefore enhance retention and facilitate integration into everyday life. Outdoor education is taught in a practical manner in order for people to better understand and relate to the ideas and concepts presented.

There is a strong need for environmental literacy that is served by outdoor education. Outdoor education provides information about the outdoors, which includes information on a variety of environmental subjects. By learning about the environment, people become aware, become positive role models, and become better stewards of natural resources. In the broadest sense, environmental education encompasses teaching about the quality and quantity of all aspects of the environment (Ford 1981). It is a process where the individual develops understanding and appreciation of the natural environment and then recognizes this understanding. It is also an interdisciplinary process that examines the total environment and hopes to maintain and enhance the quality of life through the quality of the environment. Environmental education is concerned primarily with both ecosystemic (interdependence of living organisms in an ecological system) and ekistic (interaction between human society and the natural resources in the environment) relationships (Priest and Gass 1997).

Outdoor education provides a means for participants to experience a re-creative (recreational) experience. In general, people have a strong desire to participate in recreation and to be active. Another need served by outdoor education is the need for basic skills. This includes the desire to stay warm when outdoors, be able to take care of oneself in a primitive area, and to eat and drink when hungry or thirsty. Other basic needs may include starting a fire, creating shelter, or finding food.

Awareness of the outdoors is part of outdoor education. In outdoor education, the emphasis for a subject of learning is placed on relationships among people and natural resources (Priest and Gass 1997). In the outdoors, people become aware of their role and relationship with nature, as well as becoming aware of their own strengths and limitations. Being in the outdoors provides an individual with a setting in which to experience self-discovery.

Outdoor education today is one component of the larger environmental educational field. Ford (1981) believes that it may be the largest component of environmental education and it may affect the greatest number of people through recreational interests. By having this effect on a large number of people, respect for the environment is developed. Outdoor recreation includes those experiences that offer a meaningful relationship between the participant and the out-of-doors (Russell 1986). If people are using the outdoors for an activity, such as fishing, kayaking, biking, or hiking, they are doing so within the context of the surrounding natural environment. By learning about the natural environment, they hopefully will develop a deeper respect and appreciation.

Venues

Outdoor education occurs in a diversity of venues, ranging from wilderness explorations to artificial climbing walls and ropes courses. These and many other venues often are operated through private and public organizations, non-profit organizations and commercial businesses, churches, schools and colleges, and social clubs and organizations. Some of the leading organizations that run trips and wilderness explorations include the National Outdoor Leadership School (NOLS), Outward Bound, Wilderness Education Association (WEA), and universities.

Wilderness trips occur in settings humans do not control. Travelers in such settings do not have control of elements of nature, such as the climate (weather) or environmental factors (falling trees or natural fires). Qualifications of a wilderness area include the size of the area, as well as the human experience in that location. It is a physical and conceptual place, which is relative rather than an absolute conception and condition (Miles 1999). The wilderness provides an environment for challenge, growth, and development of both individuals and groups. The wilderness is used by millions of people every year for individual growth and challenge, group dynamics, and therapeutic intentions. Over 700 organizations offer wilderness programs for personal growth, according to Friese (1996) and these programs are increasing in numbers by about 15 percent per year (Gager 1996).

Artificial climbing walls have become very popular for introducing individuals into the sport of rock climbing (Attarian 1999). According to Rock and Ice Magazine, seventy percent of indoor climbers that were surveyed had never climbed outdoors (Soles 1993). Artificial climbing walls provide a controlled environment for experiencing rock climbing. Climbing walls originated in the 1500s for training soldiers (Thomas

1988) and have increased in popularity during the past 50 years (Attarian 1999). Climbing walls provide a number of opportunities for individuals and groups. They provide year-round programming, climbing in any area of the world (urban or rural, low or high elevations), programs for all age groups and skill level, a safe, controlled environment, a place to increase skill level, reduction of social and environmental impacts of climbing, increased number of participants, and they can be used for team-building or therapeutic interventions. Climbing walls can be used for recreational uses, instruction, training or fitness, and competitions (Attarian 1999).

Attarian (1990) defined ropes courses as a series of obstacles of elements suspended by steel cables, ropes, and specialized hardware, usually from large trees or utility poles. Ropes courses, also known as challenge courses, are a series of activities and initiatives that encourage group participation, leadership, trust, teamwork, communication, and problem solving. High ropes course elements are based on individual outcomes. The low elements require the entire group to work together to complete tasks. Challenge courses have become increasingly popular across a wide range of settings in the United States and many other countries (Rogers 2000).

The success of a ropes course program depends on a delicate blend of skills and character: a taste for challenge, tenacity in problem solving, and the ability to work with others (Outward Bound Brochure 1995). Ropes courses encourage groups to work together when completing tasks and activities, often called initiatives. Schirich (1996) believes that ropes courses are a multidimensional teaching tool. Some goals for ropes course participants may be communication, teamwork, leadership, trust, and having fun. A ropes course can be used as a metaphor which can illustrate a groups strengthens and weaknesses as they work together. All learning is done using experiential education. For learning to occur, the facilitator processes the activity with the group. Processing and then being able to apply what the group has learned during the activity is called transference.

Adventure Education Curricula

Wilderness Curriculum

The parameters that equate to the "best professional practices" affect change in knowledge, skills, attitudes, and behaviors. Scientific literature, educational research, and peer recommendations support these parameters. Most areas of adventure education have a curriculum associated with either the organization or the specific program. By examining the curriculum, we can generate an overall list of adventure education curriculum needs.

Outdoor adventure education programs have potential to be used to improve moral development of participants (Garvey 1999b). Moral development can be part of the overall curriculum associated with participant experiences. Reimer et al. (1990) address 10 activities that could be used in creating outdoor adventure education experiences that address moral development.

- Developing a rationale for moral development.
- Identifying moral uses that may arise in the program.
- Helping relate or transfer the inherent moral issues in an outdoor adventure program to the participants' lives.
- Selecting activities that promote participants taking the role of "another".
- Modeling and facilitating the acquisition of higher order moral reasoning skills.
- Creating opportunities for participants to address their personal moral dilemmas.
- Working with a colleague as co-facilitator.
- Pilot testing the intended activities.
- Allowing students to act on their own reasoning.
- Committing to continued staff renewal and development.

There are several larger outdoor education associations that are viewed as the leaders in the field of adventure education. These are the organizations that started the outdoor education movement and remain leaders in the field. Outward Bound, preeminent in the North American outdoor education movement, is recognized as a major industry contributor to standards in safety, program design, and leadership (Hirsch 1999). Outward bound was founded on quality and safety, dedicated to true adventure, and making a difference in people's lives. It was created on the four pillars of physical fitness, self-reliance, craftsmanship, and compassion. The following are educational objectives and course requirements for Outward Bound programs.

Educational Objectives:

- Personal development
- Interpersonal effectiveness
- Environmental awareness
- Learning
- Philosophy and values

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Course Elements:

- Natural environment: provides the arena in which our students are free to examine new roles, to gain control of their lives through self-sufficiency and face the direct consequences of their actions.
- Relevant skills training: enables out students to function with competence and safety in the natural environment.
- Stress/hardship: exposes students to a series of increasingly difficult challenges that compel them to examine their own reactions and responses in new situations requiring decision and action.
- Problem solving: requires the individual and/or group to analyze situations and arrive at solutions.
- Service: develops a sense of responsibility for the welfare of others and stewardship of the environment.
- Reflection: encourages and allows students to consider the experience, through structured debriefs, informal discussions and Solo, in ways that promote insight and self-discovery.
- Evaluation: encourages constructive examination and assessment of individual students, and promotes a positive response in the form of action.
- Measurement of course objectives: encourages self-evaluation as students measure and internalize the results of their effort relative to their expectations; Instructors must help frame expectations and perspectives, provide clarity and objectivity to conclusions drawn, and identify overlooked issues.

The National Outdoor Leadership School (NOLS 1986) core curriculum suggests the comprehensive nature of the learning experience include: minimum-impact camping and resource protection, travel techniques, outdoor living skills, safety, environmental awareness, and expedition dynamics. The curriculum was expanded by NOLS in 1998 to include:

Safety and Judgment

- Basic first aid.
- Safety and accident prevention.
- Hazard evaluation.
- Wilderness medicine-related injury prevention and treatment.
- Rescue techniques.
- Emergency procedures.

Leadership and Teamwork:

- Competence.
- Self-awareness.
- Expedition behavior.
- Judgment and decision-making.
- Tolerance for hard work.
- Communication.
- Vision and action.
- Small group expeditions.
- Practical leadership opportunities daily.

Outdoor Skills:

- Campsite selection.
- Shelter and stove use.
- Fire building.
- Sanitation and waste disposal.
- Cooking, baking, nutrition and rations.
- Equipment care and selection.
- Keeping warm and dry.
- Route finding and navigation.
- Activity skill development -- backpacking, kayaking, horse packing, sailing, fishing, telemark skiing, caving, climbing, canoeing.

Environmental Studies:

- Leave-no-trace camping and resource protection.
- Ecosystems.
- Flora and fauna identification.
- Geology, weather, astronomy, land management and cultural issues.
- Public service.
- Wilderness ethics.

The purpose of the Wilderness Education Association is to create a curriculum for use in an educational setting to train future outdoor leaders. Once again, this organization seems to contribute to both the curriculum, programming, and leadership needs of the adventure education field. The Wilderness Education Association's 18-point curriculum elements (Teeters and Lupton 1999) include:

- Decision-making and problem solving.
- Leadership.
- Expedition behavior and group dynamics.
- Environmental ethics.
- Basic camping skills.
- Nutrition and ration planning.
- Equipment and clothing selection and use.
- Weather.
- Health and sanitation.
- Travel techniques.
- Navigation.
- Safety and risk management.
- Wilderness emergency procedures and treatment.
- Natural and cultural history.
- Specialized travel and adventure activity.
- Group processing and communication skills.
- Trip planning.
- Teaching and transference.

Outward Bound, NOLS, and WEA have set the examples for outdoor adventure education companies through their leadership, programming, and curriculum. Their standards have effected changes in behaviors, knowledge, skills, and attitudes throughout the field. They have been leaders in research and education. NOLS has founded the "leave-no-trace" ethic, which has been widely accepted by outdoor educators.

Ropes Course Curriculum

Challenge courses have their own set of criteria for programming, leadership, and curriculum. Project Adventure (PA) was founded in 1971 with a goal to mainstream the Outward Bound curriculum into the secondary public schools. By 1980 over 400 schools across the country had adopted at least one component (academic or physical education) of the original PA program (Hirsch 1999). The company's goals are to help be a catalyst for personal and professional change and growth of organizations and individuals. According to Hirsh (1999), the key elements of an adventure curriculum for Project Adventure include:

- A sense of adventure.
- Unpredictability, drama, and suspense.
- A consistently high (but accomplishable) level of expectation demanded and created by both the intrinsic and external forces.
- A success orientation in which growth is supported and encouraged and in which the positive is emphasized.
- An atmosphere of mutual support in which cooperation, encouragement, and interpersonal concerns are consistently present.
- A sense of enjoyment, fun, and the opportunity to laugh at a situation, each other, and oneself.
- An approach to learning which makes use of group problem solving, which allows for a variety of personal contributions and which presents problems that can't ordinarily be solved individually.
- The use of a learning laboratory that is more complex, more engaging, less predictable and less familiar than a classroom.
- The merging of intellectual, social, physical and emotional learning and development.
- A significant amount of cognitive work related directly to abstractions and questions previously developed or subsequently to be developed.
- The combining of moments of active involvement with moments of personal and group reflection and evaluation.
- A definite organization and structure which define the limits of the experience and state expectations, but within which the participants have freedom to make decisions, choices, and even mistakes.
- An economic and structural reasonableness that allows the curriculum to effectively compete for dollars and other resources within an educational economy that is limited in its resources.

Project Adventure is a pioneer in the use of the debriefing technique (Hirsch 1999). The process of reflecting, processing, debriefing, and transference of knowledge gained through participation has been part of most developmental adventure education experiences. Through facilitation, it has been shown that participants gain knowledge and understanding through processing their experience. Other essential features of developmental adventure programming include: developmental goals, deliberate and sequential process, use of risk and challenge, group context, and the experiential cycle (Hirsh 1999).

Leadership

The development of hard and soft skills is needed by leaders to effectively teach participants in adventure education. Soft skills involve facilitation, instructional, and organizational skills. Hard skills include technical, safety, and environmental skills. According to Priest and Gass (1997), there are also meta-skills that hold the soft and hard skills together. Effective communication, flexible leadership style, professional ethics, problem solving, decision-making, and experience-based judgment are some of the meta-skills needed.

Several outdoor leadership researchers (e.g., Cousineua 1977, Swiderski 1981, Buell 1983) have specifically examined the competencies necessary for an outdoor leader. According to Hattie et al. (1997), most adventure programs impact leadership competencies. Others (e.g., Shiner 1970, Mendence 1979, Simmons 1982, Priest 1988) have made recommendations for training outdoor educators in higher education. According to Raiola and Sugerman (1999) there are nine elements that have emerged as preferred curriculum content for outdoor leadership education. These nine elements include:

- Leadership style.
- Objective and subjective judgment.
- Trip planning and organization.
- Environmental issues.
- Risk management.
- Instructional principles.
- Navigation.
- Group dynamics.
- Nutrition.

During the past several years outdoor leadership curriculum has increased in use through universities and colleges. The title and the department that houses the programs have varied widely as has the curriculum. Raiola and Sugerman (1999) suggested using the nine elements listed above for teaching outdoor leaders, but recognized that selection of the elements to focus on and the sequence of the elements were also dependent on each educators' curriculum.

Adventure education has also been used in the classroom setting. It is through the process of facilitation that the experience can be linked to a number of different disciplines. Adventure education has been used to enhance the learning of college students (Beidler 1980, 1985, 1987). Placing the students in environments where they work together on problem solving, trust, leadership, and communication can strengthen the learning process.

Parameters of Adventure Education

Adventure education contains elements of uncertainty, real or perceived risk, excitement, interaction with nature, and effort (Bunting 1990, Ewert 1989, Priest 1990, Raiola and O'Keefe 1999). Risk activities can provide opportunities for the development of a positive self concept by helping participants discover their capabilities, individual limits, and what they can do (Meier et al. 1980). Rohnke (1986) suggests that risk provides that spice that makes achievement satisfying. Knowing that adventure education has several advantages, it is also important to recognize the parameters that help define the field. Some parameters include:

- Ethics of care.
- Program design.
- Program implementation.

Ethical issues are intimately bound up with every aspect of adventure education, and that ethics must be dealt with by adventure education (Hunt and Wurdinger 1999). Ethics of care issues deal with safety of both people and of the environment. Working with individuals, professionals have an ethic to care for them both physically and mentally in an adventure education setting. Challenge by choice is a practice that outdoor educators use when working with individuals. Challenge by choice means that it is each individuals choice on how far they can challenge themselves and if they do not feel comfortable they do not have to participate in a specific activity. Ethically it is important to provide individuals with the option on how far they can go during an activity. Participants need to feel comfortable both physically and mentally when working with a group. It is important to set up guidelines with a group prior to starting an activity, so everyone understands the importance of being physically and mentally safe.

One of the most important themes in outdoor adventure education is that the participants should be provided with the necessary skills, both mental and physical, to enable them to experience success in using and preserving the outdoors (Cinnamon and Raiola 1991). The emphasis is not on winning or losing, but rather on facing the challenges of the activity. Some of the generally accepted goals are personal growth, skill development, excitement and stimulation, challenge, group participation and cooperation and understanding of one's relationship to the natural environment.

Ethics of care also deal with the environment. When working with a group, minimum impact practices should be taught and understood by all members of the group. By using the environment, students learn that it is important to respect it and to take care of it for future generations. It is also important to role model positive behavior towards the environment. The leader in an outdoor setting needs to provide the group with direction and guidance in their actions. A leader can teach minimum impact skills in a positive and encouraging way.

Designing a program for all populations is another important parameter of adventure education. Programs should be accessible to people with all types of disabilities, from all cultures, ethnicities, economic backgrounds, and gender. The mission of Wilderness Inquiry, a wilderness adventure company based out of Minneapolis, Minnesota, is to encourage inclusion of people with all ability levels. Being accessible to all populations might involve additional training and equipment needs, but as an adventure education program, there is an obligation to meet these needs.

Another important parameter is program implementation. The goals and objectives of a program must match the practices of the program that is being implemented. Through carefully articulated mission statements, goals and objectives, detailed manuals, leadership training, and appropriate marketing materials, organizations can ensure that leaders effectively meet customer needs during their experience.

Evaluation Methods

Adventure program evaluation presents several challenges to researchers. Evaluation traditionally has not been a priority relative to program development

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and service (Warner 1999). This has changed over the past 30 years with an increase in evaluation studies. During the past decade, these studies have devoted more attention to understanding the process and components of program effectiveness rather than simply focusing on outcomes (Warner 1999). Still, a wide variety of programs do not conduct evaluations for use as learning tools.

By conducting evaluations on a regular basis, an organization can gain knowledge from their programs that can be used formatively to make changes. If a program only conducts evaluations at the end of an event, they often miss pieces of information that can help shape the direction of the program. This information is useful to identify needed changes and to prevent mistakes from recurring.

Accreditation, a form of a peer review, is a type of evaluation. The Association for Experiential Education (AEE) and the Association for Challenge Course Technology (ACCT) have set outdoor industry standards that are recognized nationally. AEE has a peer review process and in 1984 the safety committee published *Common Peer Practices in Adventure Education*. It brought the association together in a united effort to determine those techniques and practices that could be mutually agreed upon as contributing to the safety of adventure programming. This publication is perhaps the best compilation of safety standards in adventure programming available (Garvey 1999a). ACCT offers standards for both building ropes courses and facilitating on them. Some of the operation standards set by ACCT include risk management, belaying, spotting, staff qualifications, and environmental impacts. ACCT's purpose is to promote the use of Challenge Courses and to set minimum standards (Challenge Course Standards Manual 1998).

The very same environmental factors that make a wilderness trip exciting, unique, and challenging also make research difficult (Ewert and McAvoy 2000). These challenges include:

- Carrying and protecting data collection material from the natural elements.
- Not intruding on the group dynamics of a small group.
- Practicing minimum impact camping while trying to collect data.
- Finding time and energy to collect data.
- Allowing the participants to experience the range of emotions that can occur in a wilderness setting without interfering on their personal space.

Other research challenges may include a small sample size, logistics, scheduling, and the goals of the program itself. Further, it is often difficult to sort out why change is occurring for the participants. Some participants come on wilderness trips to change, called the "readiness to change syndrome" (Borstelman 1977), and therefore the actual program may not be a catalyst in changing the individual.

Psychological and structural obstacles are faced when creating evaluations. The first psychological obstacle is the need for the leader to change if necessary. The second issue which blocks practitioners from getting more involved in evaluation and research effort is the tendency of researchers to use jargon and sophisticated technical procedures which obscure the nature of the evaluation process (Warner 1999). Structural obstacles in the field of experiential education include the lack of time of practitioners. There are typically few incentives and payoffs to conduct program evaluations from an organizational perspective (Warner 1999). With effort from the organizations and practitioners, these obstacles can be overcome. It takes time, resources, and energy to make evaluation effective, but it is possible.

Gaps in Literature

Early evaluation research primarily studied individual changes in the wilderness and other outdoor settings, whereas now it is incorporating group dynamics issues. Examination of group development in organized wilderness group programs is just beginning and will probably continue to develop as a major research theme (Ewert and McAvoy 2000). The methods used to collect data are becoming more diverse and creative. They are looking at the how and why of programming, versus only looking at the what and when of the program. Ewert (1987) encourages the researcher to look beyond the outcomes generated from an outdoor adventure activity and to provide an understanding as to why it happened and how it can be made to happen again.

Evolving research themes and methods of research included an early focus on the individual but is now moving towards the influence that the experience has on the group. There is an influence of experience on group variables, such a group development, cohesion, trust, social relations, and family function (McAvoy 2000). "Despite the importance and popularity of the issues associated with group dynamics, there have been relatively few systematic studies done under the rubric of organized groups in wilderness settings" (Ewert and McAvoy, 2000, p. 17). Studies have shown that on a short-term basis in good conditions, groups do function

well in the wilderness context. When conditions become stressful, demanding or too long, group dynamics can deteriorate (Ewert and Heywood 1991, Wood et al. 1999, Leon et al. 1994).

Hattie et al. (1997) examined the effects of adventure programs on a diverse array of outcomes such as self-concept, locus of control, and leadership. They used a meta-analysis to synthesize the findings across several types of programs. Their analysis showed that the effects of adventure programs on self-esteem exceed those of any other type of educational program. Further, they suggested future research needs to move towards evaluating multiple outcomes and investigating the relationships among program characteristics and outcomes. They also recommended:

- Using dependable measurements.
- Using a sample size large enough to obtain a power of at least .80.
- Using tests that are related to the desired outcomes.
- Including scales unrelated to expected outcomes to act as a type of control.
- Providing clear documentation and analyses relating to appropriate background variables.
- Ascertaining the effects of the instructor.
- Investigating interaction effects between the major variable.
- Making sure the nature of the program is documented.
- Consider alternative designs.

There is a need to move from outcomes to theory and process studies. Hattie et al. (1997) discuss four premises on the positive effect that adventure education has on participants, and states that these premises could be the basis for future research. The four premises include, quality of experience, obtaining designed goals, amount and quality of feedback, and examining the individual's coping strategies. A further area of investigation that could inform research and offer insights on the interactions between environmental and personal aspects of adventure programs relates to the literature of expeditions, particularly in extreme environmental conditions such as in the Antarctic and at high altitude (Hattie et al. 1997).

A few researchers (Bialeschki and Henderson 1992, Jones and Hollenhorst 1998, and Walker et al. 1998) examined the flow model with adventure education. All of these studies have been quantitative in nature and have used the Experience Sampling Form (ESF) to gather data. Jones and Hollenhorst (1998) studied the optimal adventure within an on-site whitewater kayaking setting using a modification of the Experience Sampling Method (ESM). Walker et al. (1998) also used a questionnaire to collect data regarding participant flow experiences. The study illustrated that optimal experiences do appear to occur during outdoor recreation events. Future studies using the flow model could be conducted with qualitative designs, as well as looking at a diversity of outdoors areas and activities.

Several researchers have examined ropes courses and looked at various populations as they participate in experiences. These studies have used both quantitative and qualitative approaches. Theories behind some of the studies were unclear or not stated, while others drew from diverse fields of study as one would expect from an interdisciplinary field like experiential education (Carver 1996). Teamwork and group development issues are the ropes course outcomes that have been examined at great depth in the past. Other researchers have probed the relationships among trust, self-esteem, communication, and risk-taking.

Goldenberg (1997) used means-end analysis to examine ropes course outcomes. Her research examined the links between the benefits derived from participating in a ropes course and the higher-level outcomes and personal values important to a particular individual. According to Goldenberg et. al. (2000), additional research should be conducted to better understand these benefits and determine their role and generalizability in other ropes course and adventure education settings. Means-end analysis could be extended to different types of groups, as well as to different types of adventure education programs.

Different types of groups that use wilderness settings have been studied in the past, but there are currently several gaps in the literature that need attention. Research (McAvoy et al. 1995, Robb and Ewert 1987) has shown the benefits of the wilderness experience for people with disabilities in both integrated and segregated groups. A disability group that has received little attention in wilderness group research is people with developmental disabilities (Ewert and McAvoy 2000). The challenges of self-reporting for this group have made research difficult to conduct.

A few researchers have documented the potential and actual benefits of an all-women wilderness group (Asher et al. 1994, Mitten 1994, Powch 1994). However, according to Ewert and McAvoy (2000), most of these studies have been qualitative, so it is difficult to generalize findings to other groups. They also noted that there is little information on how wilderness actually contributes to the benefits and outcomes of these programs for these groups.

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Wilderness therapeutic groups are part of adventure therapy that takes small groups into the wilderness settings. However, little is known about the effects of adventure therapy. Some work has focused on "at-risk youth" and has been primarily reported in dissertations that have had methodological limitations (Ewert and McAvoy 2000). There is also very little research on family therapy in wilderness settings.

Future Research

More inquiry is sorely needed to provide evidence that adventure programming is more than just fun and games, and to support it as the powerful form of change that practitioners believe it to be (Priest 1999). The areas that need to be developed are: examining the elements of adventure programming and the means by which these elements bring about change, transferring change to the client's real life, and sustaining that change in the face of a contrary environment. Studies should examine these additional program elements:

- Duration of programs (single versus multi-day).
- Content in terms of activity numbers, lengths, types, and debriefings.
- Location (indoor or outdoor), and setting (urban, rural, or wilderness).
- Follow-up (transfer strategies, reflection, and integration).
- Client types, ideal numbers, and gender.
- Leadership facilitation techniques, teaching styles, and gender effects.

Implications for future research, according to McAvoy (2000), include analyzing program components and models to see how benefits are realized. Inquiry into the adventure experience needs to move into the next stage, from describing the product to understanding the process (Klint 1999). This means examining the "how and why" of the adventure experience, and not focusing on only the "what" of the experience. It also involves looking at each component of the program to determine which elements benefit the participants. There is a greater diversity of participants being studied and this will continue to increase in the future. Multi-method research will be used to conduct research instead of single collection approaches. Increased attention should be given to both secondary as well as primary outcomes in research (Ewert and McAvoy 2000).

Future research in this field needs to address the transference of the benefits of these programs into the work, school, and personal lives of the participants (Ewert and McAvoy 2000). It should address the long-term outcomes of participation in adventure education. As a result, ethics and intrusion issues will continue to be a factor when collecting data.

Future inquiry should also focus on theory-based research. For example, a further examination of self-efficacy theory and which of Bandura's three dimensions of self-efficacy are most susceptible to change in the adventure experience (Klint 1999). Future studies can also look at White's and Harter's theories of competence motivation which include success and failure, degree and type of reinforcement from others, motivational orientation, and perceptions of control. Inquiry into the adventure experience can examine which of these factors are associated with the experience and which factors are related with changes in perceived competence levels (Klint 1999).

According to Henderson and Fox (1994), there are ten important reasons why there needs to be more and better outdoor education research methods and measures. These reasons include: theories and values influence research methods and measures, measurement must be relevant, long-term and in-depth studies are valuable, the challenge of analysis, the diversity of participants, process orientations and group-based studies provide a further dimension, collaborative styles of research will open doors, multiple methods exist for research, to create a demand for research publication, and many critical issues exist in outdoor education.

Recommended Practices

Organizations, such as Outward Bound and NOLS, have set program standards that can be used and applied to any organization in the field with modifications. Each program in the field, no matter its size or population it serves, should examine these standards that have been developed through research and experience. The following recommendations are made based on research and program experience in adventure education and are intended to provide guidance to educators interested in developing and evaluating their programs.

Ethics of Care for Participants

An organization should have defined ethics of care for all participants in an outdoor education program. Ethics of care includes physical and mental safety for the participants, which includes using "challenge by choice." The participants should feel safe while participating in all aspects of the program, which may include physically climbing on a ropes course or participating in a group discussion. It is the responsibility of the leaders and of the organization to create this environment for the participants. The ethics of care for the

participants also includes having a specific ratio of participants to leaders during a given activity. Each outdoor activity has specific ratios and this needs to be addressed by the organization operating the educational program.

Ethics of Care Towards the Environment

If an organization is using the natural environment for outdoor educational programming, they have an ethic of care towards the environment. This includes teaching and practicing minimum impact camping techniques. A wilderness instructor can role model positive environmental behavior and make lessons about the environment enjoyable for the participants. Using a climbing wall or a ropes course, an educator can also share information about the environment with the participants through framing an activity.

Safety of Participants and Staff Members

Safety is a very important best practice in working in the outdoor education field. Safety of the participants and of staff members is essential when operating an effective and efficient organization. Safety includes obtaining background information about participants, communicating program curriculum with participants, and having skills needed for the given activity. The staff needs to know safety protocol of the organization and have written emergency plans accessible at all times. Safety includes training, communication, preparation, and experience of all outdoor educators.

Leaders Who are Qualified with Training and Certification

Leadership skills in adventure education need to include hard, soft, and meta-skills. Parameters for leadership skills that effect changes in knowledge, behavior, skills, and attitudes include effective and efficient leadership. Certification of outdoor leaders has been a topic of discussion in the field. The hard skills are easy to gain and certify and then teach to others. It is worthwhile and beneficial for all concerned to become certified in the specific hard skill they are teaching. For example, becoming a certified wilderness first responder if you are teaching in the wilderness setting or becoming ACA (American Canoeing Association) certified if you are teaching whitewater canoeing. The challenge comes with the soft skills and the meta-skills. How can we certify someone to facilitate or problem-solve? These soft skills need to be taught by each organization to meet that organizations needs. Leadership issues that are part of the best practices in outdoor education include training, awareness, and communication with all levels of management.

Goals and Objectives Matching Organization Needs

Programming for adventure education should be planned and then implemented. For a program to be successful, there should be goals and objectives before it is started. Everyone involved with the program should be aware and understand the goals and objectives. While programming, the organization must look at locations and resources, such as staffing and money, and client groups. The program should be similar to the overall mission statement of the organization. Best practices of the outdoor adventure education field are specific for each organization. Each organization needs to assess their mission statement, goals, and objectives address. They should examine larger organizations with similar goals and objectives and use parts of these programs that can be implemented for their own use.

Skill Development and Awareness for Participants

The purpose of outdoor education is to provide skills and awareness to participants. The skills and awareness that the participants receive will vary depending on the organization. For example, if a group goes backpacking, they should learn minimum impact camping skills, proper fit and adjustments of a backpack, cooking skills for the backcountry, and navigation skills. Each program should specify the skills that participants will achieve through participation and this can be done through a written and verbal curriculum.

Have a Written Curriculum

While examining curriculum in outdoor adventure education, it is important to assess the needs of the program. The knowledge, skills, attitudes and behaviors of the participants and of the staff can be affected by the curriculum of a program. Curriculum needs should focus on safety, skills (hard, soft, and meta-skills), and environmental issues. Specific skills should depend on the activities being taught. By having a written curriculum, the organization can be more effective when working with groups and clients. A curriculum can affect the knowledge that the participants will gain from the program. The curriculum can be written down and once the program is complete, the participants can check off the skills they have gained. Having a written curriculum also enhances the knowledge of the staff, because they then feel more confident and comfortable teaching specific skills. Skills of the participants and staff increase with written curriculum goals and objectives. For example, if the participants are going to learn to canoe a class 3 rapid, they will need to gain the skills necessary to do this safely. Atti-

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tudes and behaviors of participants increase with a curriculum. A curriculum provides a guideline, which participants will know about prior to their participation, so they then know what to expect with the experience.

Ongoing Evaluation and Research Benefits the Program and the Field

Ongoing evaluations are important for each organization to be successful. Participants and staff that participate in a given program should complete evaluations. It is also good to get outside resources to conduct research and evaluation on specific programs. Accreditation is a very positive way to make sure your program is up to standards of other similar programs. The peer review process is a positive way to learn about your programs, strengths and weaknesses from other practitioners in the field. Evaluations on a program should be done both summatively and formatively for ongoing program improvement.

References

Association for Experiential Education (AEE). 1995. Our Vision. AEE Conference Handbook.

Asher, S., G. Huffaker and M. McNally. 1994. Therapeutic considerations of wilderness experiences for incest and rape survivors. Women and Therapy, 15 (3-4), 161-174.

Attarian, A. 1990. Recreation on the ropes. Parks and Recreation, 30-36.

Attarian, A. 1999. Artificial climbing environments. In, J.C. Miles and S. Priest (Eds.). Adventure Education. (pp. 341-345). State College, PA: Venture Publishing, Inc.

Beidler, P. 1980. A turn down harbor. Journal of Experiential Education, 3 (2), 24-32.

Beidler, P. 1985. English in the tree tops. Journal of Experiential Education, 8 (3), 34-41.

Beidler, P. 1987. Bee weekend. Journal of Experiential Education, 10 (3), 23-27.

Bialeschki, D. and Henderson, K. 1992. Optimal experience among campers in a resident camp setting. Coalition for Education in the Outdoors Research Symposium Proceedings, 55-64.

Borstelman, L. 1977. Psychological readiness for and change associated with the Outward Bound program. Unpublished paper presented to North Carolina Outward Bound School.

Buell, L. 1983. Outdoor Leadership Competency: A Manual for Self-Assessment and Staff Evaluation. Greenfield, MA: Environmental Awareness Publication.

Bunting, C. 1990. Interdependency: A key in environmental and adventure education. In, J.C. Miles and S. Priest (Eds.). Adventure Education. (pp. 453-458). State College, PA: Venture Publishing, Inc.

Carver, R. 1996. Theory for practice: A framework for thinking about experiential education. The Journal of Experiential Education, 19 (1), 8-13.

Challenge Course Standards. 1998. The Association for Challenge Course Technology. Manual.

Cinnamon, J. and E. Raiola. 1991. Adventure skill and travel modes. In, D. Cockrell (Ed.). The Wilderness Educator: The Wilderness Education Association Curriculum Guide (pp.129-130). Merrillville, IN: ICS books.

Cousineau, C. 1977. A delphi consensus on a set of principles for the development of a certification system for educators in outdoor adventure programs. Unpublished doctoral dissertation, University of Northern Colorado, Greeley, Colorado.

Ewert, A. 1987. Research in experiential education: An overview. Journal for Experiential Education, 10 (2), 4-7.

Ewert, A. 1989. Outdoor Adventure Pursuits: Foundations, Models, and Theories. Columbus, OH: Publishing Horizons, Inc.

Ewert, A. and J. Heywood. 1991. Group development in the natural environment: Expectations, outcomes, and techniques. Environment and Behavior, 23, 592-615.

Ewert, A. and L. McAvoy. 2000. The effects of wilderness settings on organized groups: A state-of-knowledge paper. In, S. McCool, D. Cole, W. Borrie and J. O'Loughlin. Wilderness Science in a Time of Change Conference. Volume 3: Wilderness as a Place for Scientific Inquiry. (pp. 13-26). USDA Forest Service Proceedings.

Friese, G. 1996. A typology and survey of wilderness experience programs nationwide. Unpublished master's thesis, University of Idaho.

Ford, P. 1981. Principles and Practices in Outdoor and Environmental Education. New York: Wiley.

Freeberg, W. and L. Taylor. 1963. Programs in Outdoor Education. Minneapolis, MN: Burgess Publishing Company.

Gager, D. 1996. Agency policies and wilderness manager's attitudes towards wilderness experience programs. Unpublished master's thesis, University of Idaho.

Garvey, D. 1999. A history of the association for experiential education. In, J. C. Miles and S. Priest

(Eds.). Adventure Programming. (pp. 71-76). State College, PA: Venture Publishing, Inc.

Garvey, D. 1999. Outdoor adventure programming and moral development. In, J. C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 133-139). State College, PA: Venture Publishing, Inc.

Goldenberg, M. 1997. Understanding the benefits of ropes course experiences using means-end analysis. Unpublished Manuscript, Purdue University, IN.

Goldenberg, M., D. Klenosky, J. O'Leary, and T. Templin. 2000. A means-end investigation of ropes course experiences. Journal of Leisure Research, 32 (2), 208-224.

Hammerman, D. 1994. Teaching in the Classroom. Danville, IL: Interstate Publishers.

Hattie, J., H. Marsh, J. Neill, and G. Richards. 1997. Adventure education and Outward Bound: Out-of-class experiences that make a lasting difference. Review of Educational Research, 67 (1), 43-87.

Henderson, K. and K. Fox. 1994. Methods, measures, and madness: Possibilities for outdoor education research. In, L. McAvoy, L. Stringer and A. Ewert (Eds.). Coalition for Education in the Outdoors Second Research Symposium Proceedings (pp. 9-13). Cortland, NY: Coalition for Education in the Outdoors.

Hirsh, J. 1999. Developmental adventure programs. In, J. C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 13-27). State College, PA: Venture Publishing, Inc.

Horwood, B. 1999. Education adventure and schooling. In, J. C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 9-12). State College, PA: Venture Publishing, Inc.

Hunt, J. and S. Wurdinger. 1999. Ethics and adventure programming. In, J.C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 123-132). State College, PA: Venture Publishing, Inc.

Jones, C. and S. Hollenhorst. 1998. Validating predictors to determine optimal adventure in whitewater kayaking. Coalition for Education in the Outdoors Fourth Research Symposium Proceedings, 77-78.

Klint, K. 1999. New directions for inquiry into self-concept and adventure experiences. In, J.C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 163-168). State College, PA: Venture Publishing, Inc.

Leon, G., R. Kanfer, R. Hoffman and L. Dupre. 1994. Group processes and task effectiveness in a Soviet-American expedition team. Environment and Behavior, 26, 149-165.

Lindsay, A. and A. Ewert. 1999. Learning at the edge: Can experiential education contribute to education reform? The Journal of Experiential Education, 22 (1), 12-19.

McAvoy, L. 2000. Overhead handouts. University of Minnesota.

McAvoy, L., G. Lais, L. Anderson, and S. Schleien. 1995. Wilderness and persons with disabilities: A review of research and policy directions. Trends, 32 (1): 33-37, 48.

Meier, J., T. Morash and G. Welton. 1980. High Adventure Outdoor Pursuits, Organization and Leadership. Columbus, Ohio: Publishing Horizons, Inc.

Mendence, D. 1979. An integrated-interdisciplinary model in outdoor education for higher education. Unpublished dissertation, University of Northern Colorado, Greeley, Colorado.

Meyer, B. and M. Wenger. 1995. The ropes course experience: Longitudinal examination of the behavior change process. Proceedings of the Association for Experiential Education 23rd Annual International Conference, Wisconsin, USA, 95, 172-173.

Miles, J. 1999. Wilderness. In, J.C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 321-323). State College, PA: Venture Publishing, Inc.

Mitten, D. 1994. Ethical considerations in adventure therapy: A feminist critique. Women & Therapy. 15 (3/4): 55-84.

National Outdoor Leadership School. 1998. NOLS Course Catalog. Lander, WY: Author.

National Outdoor Leadership School. 1986. Catalog of courses. Lander, WY: Author.

Outward Bound, Professional Development Programs. 1995. Brochure.

Powch, I. 1994. Wilderness therapy: What makes it empowering for women? Women and Therapy, 15 (3-4), 11-27.

Priest, S. and M. Gass. 1997. Effective Leadership in Adventure Programming. Champaign, IL: Human Kinetics.

Priest, S. 1988. Outdoor leadership training in higher education. Journal of Experiential Education, 11 (1), 42-47.

Priest, S. 1990. Semantics of adventure education. In, J.C. Miles and S. Priest (Eds.). Adventure Education (pp. 113-117). State College, PA: Venture Publishing, Inc.

Priest, S. 1999. Research in adventure programming. In, J.C. Miles and S. Priest (Eds.). Adventure Education (pp. 309-317). State College, PA: Venture Publishing, Inc.

Raiola, E. and M. O'Keefe. 1999. Philosophy in Practice: A History of Adventure Programming. In, J.C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 45-54). State College, PA: Venture Publishing, Inc.

Raiola, E. and D. Sugerman. 1999. Outdoor leadership curriculum. In, J.C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 241-245). State College, PA: Venture Publishing, Inc.

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Reimer, J., D. Paolitto and R. Hersh. 1990. Promoting Moral Growth: From Piaget to Kohlberg (3rd Edition). Prospect Heights, IL: Waveland.

Robb, G. and A. Ewert. 1987. Risk recreation and persons with disabilities. Therapeutic Recreation Journal, 21 (1). 58-69.

Rogers, D. 2000. To the top: Challenge courses for persons with disabilities. Parks and Recreation, 35 (3), 76-87.

Rohnke, K. 1986. Project Adventure: A widely used generic project. Journal of Physical Education, Recreation, and Dance, 57 (5), 68-69.

Russell, R. 1986. Leadership In Recreation. St. Louis, MO: Times Mirror/Mosby College Publishing.

Schirich, E. 1996. Managing the risks of challenge courses. Camping Magazine, 69 (2), 13-14.

Shiner, J. 1970. Developing professional leadership in outdoor recreation. Unpublished doctoral dissertation, State University of New York, Syracuse, New York.

Simmons, G. 1982. An outdoor adventure education baccalaureate degree curriculum and activities model. Unpublished doctoral dissertation, University of Northern Colorado, Greeley, Colorado.

Soles, C. 1993. Survey of climbing gyms. Rock & Ice, 45, 119-123.

Swiderski, M. 1981. Outdoor leadership competencies identified by outdoor leaders in five eastern regions. Unpublished doctoral dissertation, University of Oregon, Eugene, Oregon.

Teeters, C. and F. Lupton. 1999. The Wilderness Education Association: History and change. In, J.C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 77-84). State College, PA: Venture Publishing, Inc.

Thomas, R. 1988. Building your own climbing wall. Rock and Ice, 35-37.

Walker, G., R. Hull, and J. Roggenbuck. 1998. On-site optimal experiences and their relationship to off-site benefits. Journal of Leisure Research, 30 (4), 453-471.

Warner, A. 1999. Improving program quality through evaluation. In, J.C. Miles and S. Priest (Eds.). Adventure Programming. (pp. 299-308). State College, PA: Venture Publishing, Inc.

Wood, J., D. Lugg, S. Hysong, and D. Harm. 1999. Psychological changes in hundred-day remote antarctic field groups. Environment and Behavior, 31, 299-337.